

Chemical Analysis Report

NE-DIST-2016-10-26-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **Suwannee 2**
Request ID: **RQ-2016-10-17-15**
Customer: **NE-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
8800 Baymeadows Way
Suite 100
Jacksonville, FL 32256
Attn: Nicole Frederick

For additional information please contact
Colin Wright, Ph.D.
Liang-Tsair Lin, Ph.D.
Thekkekalathil Chandrasekhar, PhD, QA Officer
Phone (850) 245-8085

Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 16-NOV-2016 12:55



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical group are included in this report: Pesticides.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: Olustee Creek at CR238

Collection Date/Time: 10/25/2016 10:45

Field ID: G1NE0332 10252016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1844874	EPA 8321B	Glyphosate**	10	U	ug/L	P313933	
	USGS O-2060-01	2,4-D	0.0040	U	ug/L	P313937	
		Diuron	0.0040	UJ	ug/L	P313937	MS, SUR
		Fenuron	0.0080	UJ	ug/L	P313937	MS, SUR
		2,4,5-T	0.0020	U	ug/L	P313937	
		Acifluorfen	0.0020	U	ug/L	P313937	
		Imidacloprid	0.0040	UJ	ug/L	P313937	SUR
		Bentazon	0.0020	U	ug/L	P313937	
		Linuron	0.0040	UJ	ug/L	P313937	SUR
		Acetaminophen**	0.0040	U	ug/L	P313937	
		Carbamazepine**	4.0E-04	U	ug/L	P313937	
		Silvex	0.0020	UJ	ug/L	P313937	RPD
		Primidone**	0.0080	U	ug/L	P313937	
		Fluridone**	4.0E-04	UJ	ug/L	P313937	RPD, SUR
1844875	EPA 8321B	Pyraclostrobin**	0.0020	U	ug/L	P314361	
1844876	DEP SOP: GC-011-5 (based on EPA 608 and 617)	Aldrin	0.0019	UJ	ug/L	P314251	LCS
		Alpha-BHC	0.0019	U	ug/L	P314251	
		Beta-BHC	0.0019	U	ug/L	P314251	
		Carbophenothion	0.0057	U	ug/L	P314251	
		Chlorothalonil	0.0076	U	ug/L	P314251	
		Cypermethrin	0.011	UJ	ug/L	P314251	CCV
		DDD-p,p'	0.0038	U	ug/L	P314251	
		DDE-p,p'	0.0038	U	ug/L	P314251	
		DDT-p,p'	0.0038	U	ug/L	P314251	
		Dicofol	0.023	UJ	ug/L	P314251	CCV
		Dieldrin	0.0019	U	ug/L	P314251	
		Endosulfan I	0.0019	U	ug/L	P314251	
		Endosulfan II	0.0019	U	ug/L	P314251	
		Endosulfan Sulfate	0.0038	U	ug/L	P314251	
		Endrin	0.0038	U	ug/L	P314251	
		Endrin Aldehyde	0.0038	U	ug/L	P314251	
		Heptachlor	0.0019	U	ug/L	P314251	
		Heptachlor Epoxide	0.0019	U	ug/L	P314251	
		Methoxychlor	0.0095	UJ	ug/L	P314251	CCV
		Mirex	0.0038	U	ug/L	P314251	
		Permethrin	0.0095	U	ug/L	P314251	
		Trifluralin	0.0076	U	ug/L	P314251	
1844877	EPA 8270D	Ametryn	0.33	I	ng/L	P314193	
		Atrazine	0.24	U	ng/L	P314193	
		Chlorpyrifos Ethyl	0.24	U	ng/L	P314193	
		Chlorpyrifos Methyl	0.095	U	ng/L	P314193	
		Disulfoton	0.31	U	ng/L	P314193	
		Ethion	0.14	U	ng/L	P314193	

Field ID: G1NE0332 10252016

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1844877	EPA 8270D	Ethoprop	0.095	U	ng/L	P314193	
		Hexazinone	0.63	I	ng/L	P314193	
		Malathion	0.33	U	ng/L	P314193	
		Metribuzin	0.19	U	ng/L	P314193	
		Mevinphos	0.48	U	ng/L	P314193	
		Norflurazon	0.48	U	ng/L	P314193	
		Phorate	0.24	U	ng/L	P314193	
		Prometryn	0.19	U	ng/L	P314193	
		Simazine	0.48	U	ng/L	P314193	
		Atrazine Desethyl	1.4	U	ng/L	P314193	
		Prometon	0.86	U	ng/L	P314193	
		Fipronil	1.3		ng/L	P314193	
		Molinate	0.29	U	ng/L	P314193	
		Pendimethalin	1.4	U	ng/L	P314193	
		Terbufos	0.095	U	ng/L	P314193	
		EPTC	1.2	UJ	ng/L	P314193	RPD
		Terbutylazine	0.40	U	ng/L	P314193	
		Bromacil	0.48	U	ng/L	P314193	
		Fipronil Sulfide	0.14	U	ng/L	P314193	
		Fipronil Sulfone	0.14	U	ng/L	P314193	
		Alachlor	0.24	U	ng/L	P314193	
		Azinphos Methyl	2.1	U	ng/L	P314193	
		Butylate	0.38	U	ng/L	P314193	
		Demeton	0.95	U	ng/L	P314193	
		Diazinon	0.12	U	ng/L	P314193	
		Fenamiphos	0.24	U	ng/L	P314193	
		Fonofos	0.19	U	ng/L	P314193	
		Metalaxyl	0.19	U	ng/L	P314193	
		Metolachlor	0.24	U	ng/L	P314193	
		Acetochlor	0.24	UJ	ng/L	P314193	LCS
		Cyanazine	0.48	U	ng/L	P314193	
		Parathion Ethyl	0.24	U	ng/L	P314193	
		Parathion Methyl	0.24	U	ng/L	P314193	

Ref. Method and Comment:

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes.

USGS O-2060-01: Refer to the narrative for an explanation of QC Codes. Results confirmed in re-extraction.

DEP SOP: GC-011-5 (based on EPA 608 and 617): Refer to the narrative for an explanation of QC Codes.

EPA 8270D: Refer to the narrative for an explanation of QC Codes.

Quality Assurance Report

Method Blank Results

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)

Batch ID: P314251

Component	Result	Code	Units
Aldrin	0.0020	U	ug/L
Alpha-BHC	0.0020	U	ug/L

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)

Batch ID: P314251

Component	Result	Code	Units
Beta-BHC	0.0020	U	ug/L
Carbophenothion	0.0060	U	ug/L
Chlorothalonil	0.0080	U	ug/L
Cypermethrin	0.012	U	ug/L
DDD-p,p'	0.0040	U	ug/L
DDE-p,p'	0.0040	U	ug/L
DDT-p,p'	0.0040	U	ug/L
Dicofol	0.024	U	ug/L
Dieldrin	0.0020	U	ug/L
Endosulfan I	0.0020	U	ug/L
Endosulfan II	0.0020	U	ug/L
Endosulfan Sulfate	0.0040	U	ug/L
Endrin	0.0040	U	ug/L
Endrin Aldehyde	0.0040	U	ug/L
Heptachlor	0.0020	U	ug/L
Heptachlor Epoxide	0.0020	U	ug/L
Methoxychlor	0.010	U	ug/L
Mirex	0.0040	U	ug/L
Permethrin	0.010	U	ug/L
Trifluralin	0.0080	U	ug/L

Reference Method: EPA 8270D

Batch ID: P314193

Component	Result	Code	Units
Acetochlor	0.25	U	ng/L
Alachlor	0.25	U	ng/L
Ametryn	0.32	U	ng/L
Atrazine	0.25	U	ng/L
Atrazine Desethyl	1.5	U	ng/L
Azinphos Methyl	2.2	U	ng/L
Bromacil	0.50	U	ng/L
Butylate	0.40	U	ng/L
Chlorpyrifos Ethyl	0.25	U	ng/L
Chlorpyrifos Methyl	0.10	U	ng/L
Cyanazine	0.50	U	ng/L
Demeton	1.0	U	ng/L
Diazinon	0.12	U	ng/L
Disulfoton	0.32	U	ng/L
EPTC	1.2	U	ng/L
Ethion	0.15	U	ng/L
Ethoprop	0.10	U	ng/L
Fenamiphos	0.25	U	ng/L
Fipronil	0.25	U	ng/L
Fipronil Sulfide	0.15	U	ng/L
Fipronil Sulfone	0.15	U	ng/L
Fonofos	0.20	U	ng/L
Hexazinone	0.50	U	ng/L
Malathion	0.35	U	ng/L
Metalaxyl	0.20	U	ng/L
Metolachlor	0.25	U	ng/L
Metribuzin	0.20	U	ng/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8270D
Batch ID: P314193

Component	Result	Code	Units
Mevinphos	0.50	U	ng/L
Molinate	0.30	U	ng/L
Norflurazon	0.50	U	ng/L
Parathion Ethyl	0.25	U	ng/L
Parathion Methyl	0.25	U	ng/L
Pendimethalin	1.5	U	ng/L
Phorate	0.25	U	ng/L
Prometon	0.90	U	ng/L
Prometryn	0.20	U	ng/L
Simazine	0.50	U	ng/L
Terbufos	0.10	U	ng/L
Terbuthylazine	0.42	U	ng/L

Reference Method: EPA 8321B
Batch ID: P313933

Component	Result	Code	Units
Glyphosate	10	U	ug/L

Reference Method: EPA 8321B
Batch ID: P314361

Component	Result	Code	Units
Pyraclostrobin	0.0020	U	ug/L

Reference Method: USGS O-2060-01
Batch ID: P313937

Component	Result	Code	Units
2,4,5-T	0.0020	U	ug/L
2,4-D	0.0040	U	ug/L
Acetaminophen	0.0040	U	ug/L
Acifluorfen	0.0020	U	ug/L
Bentazon	0.0020	U	ug/L
Carbamazepine	4.0E-04	U	ug/L
Diuron	0.0040	U	ug/L
Fenuron	0.0080	U	ug/L
Fluridone	4.0E-04	U	ug/L
Imidacloprid	0.0040	U	ug/L
Linuron	0.0040	U	ug/L
Primidone	0.0080	U	ug/L
Silvex	0.0020	U	ug/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: P314251

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aldrin	64.1	70.9	F/P	70 - 130

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
 Batch ID: P314251

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Alpha-BHC	73.7	90.7	P/P	70 - 130
Beta-BHC	84.9	92.5	P/P	70 - 130
DDD-p,p'	104	108	P/P	70 - 130
DDE-p,p'	76.8	82.0	P/P	70 - 130
DDT-p,p'	109	112	P/P	70 - 130
Dieldrin	77.5	84.9	P/P	70 - 130
Endosulfan I	76.1	83.7	P/P	70 - 130
Endosulfan II	94.6	105	P/P	70 - 130
Endosulfan Sulfate	100	105	P/P	70 - 130
Endrin	88.8	96.3	P/P	81 - 147
Endrin Aldehyde	99.3	105	P/P	70 - 130
Heptachlor	88.4	108	P/P	70 - 130
Heptachlor Epoxide	74.0	82.0	P/P	70 - 130
Methoxychlor	136	141	P/P	86 - 145

Reference Method: EPA 8270D
 Batch ID: P314193

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acetochlor	87.7	78.2	P/F	80 - 119
Alachlor	85.9	81.0	P/P	80 - 120
Ametryn	109	109	P/P	60 - 135
Atrazine	95.8	89.5	P/P	72 - 121
Atrazine Desethyl	65.4	61.3	P/P	14 - 124
Azinphos Methyl	122	110	P/P	74 - 186
Bromacil	84.0	83.2	P/P	38 - 125
Butylate	54.2	41.7	P/P	34 - 88.0
Chlorpyrifos Ethyl	87.0	81.8	P/P	53 - 108
Chlorpyrifos Methyl	82.3	74.7	P/P	29 - 119
Cyanazine	96.3	99.6	P/P	30 - 240
Demeton	73.9	72.3	P/P	35 - 127
Diazinon	89.3	78.3	P/P	75 - 121
Disulfoton	93.7	89.1	P/P	40 - 141
EPTC	54.5	42.4	P/P	36 - 96.0
Ethion	93.2	86.5	P/P	64 - 127
Ethoprop	84.1	73.9	P/P	65 - 108
Fenamiphos	103	94.8	P/P	62 - 140
Fipronil	89.3	82.6	P/P	59 - 127
Fipronil Sulfide	87.6	87.0	P/P	55 - 126
Fipronil Sulfone	91.6	86.0	P/P	56 - 127
Fonofos	88.8	81.1	P/P	64 - 111
Hexazinone	112	105	P/P	43 - 153
Malathion	106	97.6	P/P	70 - 129
Metalaxyl	82.5	77.4	P/P	49 - 135
Metolachlor	87.4	83.1	P/P	81 - 120
Metribuzin	95.5	91.3	P/P	66 - 133
Mevinphos	82.9	69.7	P/P	33 - 128
Molinate	59.4	49.4	P/P	46 - 101
Norflurazon	89.8	84.4	P/P	62 - 131
Parathion Ethyl	90.1	86.4	P/P	80 - 109
Parathion Methyl	89.5	87.7	P/P	76 - 126
Pendimethalin	84.1	77.7	P/P	47 - 137

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8270D
 Batch ID: P314193

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Phorate	82.4	75.3	P/P	51 - 115
Prometon	96.8	101	P/P	67 - 123
Prometryn	93.1	85.5	P/P	66 - 122
Simazine	89.9	86.3	P/P	60 - 134
Terbufos	91.6	82.7	P/P	56 - 116
Terbutylazine	91.8	87.9	P/P	77 - 114

Reference Method: EPA 8321B
 Batch ID: P313933

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Glyphosate	94.8		P	40 - 140

Reference Method: EPA 8321B
 Batch ID: P314361

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Pyraclostrobin	67.6		P	40 - 140

Reference Method: USGS O-2060-01
 Batch ID: P313937

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4,5-T	67.2		P	40 - 140
2,4-D	77.2		P	40 - 140
Acetaminophen	105		P	40 - 140
Acifluorfen	83.2		P	40 - 140
Bentazon	74.4		P	40 - 140
Carbamazepine	121		P	40 - 140
Diuron	53.6		P	40 - 140
Fenuron	89.2		P	40 - 140
Fluridone	118		P	40 - 140
Imidacloprid	85.6		P	40 - 160
Linuron	78.8		P	40 - 140
Primidone	77.2		P	40 - 140
Silvex	94.0		P	40 - 140

Quality Assurance Report Matrix Spike Accuracy

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
 Batch ID: P314251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1844904	Aldrin	84.6	70.3	P/P	70 - 130
1844904	Alpha-BHC	100	83.7	P/P	70 - 130
1844904	Beta-BHC	94.0	92.5	P/P	70 - 130
1844904	DDD-p,p'	118	104	P/P	70 - 130
1844904	DDE-p,p'	87.0	82.0	P/P	70 - 130
1844904	DDT-p,p'	112	108	P/P	70 - 130
1844904	Dieldrin	86.0	79.1	P/P	70 - 130

Quality Assurance Report Matrix Spike Accuracy

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)

Batch ID: P314251

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1844904	Endosulfan I	88.3	81.0	P/P	70 - 130
1844904	Endosulfan II	106	94.0	P/P	70 - 130
1844904	Endosulfan Sulfate	116	97.3	P/P	70 - 130
1844904	Endrin	103	94.4	P/P	81 - 147
1844904	Endrin Aldehyde	105	99.5	P/P	70 - 130
1844904	Heptachlor	113	97.2	P/P	70 - 130
1844904	Heptachlor Epoxide	82.6	74.9	P/P	70 - 130
1844904	Methoxychlor	101	121	P/P	86 - 145

Reference Method: EPA 8270D

Batch ID: P314193

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1844877	Acetochlor	80.2	79.7	P/P	77 - 125
1844877	Alachlor	91.9	88.0	P/P	75 - 127
1844877	Ametryn	96.0	97.5	P/P	53 - 150
1844877	Atrazine	88.8	97.8	P/P	70 - 126
1844877	Atrazine Desethyl	46.3	46.2	P/P	8.0 - 105
1844877	Azinphos Methyl	118	124	P/P	63 - 204
1844877	Bromacil	71.9	84.8	P/P	43 - 132
1844877	Butylate	24.5	30.3	P/P	7.0 - 87.0
1844877	Chlorpyrifos Ethyl	77.3	72.5	P/P	53 - 111
1844877	Chlorpyrifos Methyl	75.4	67.3	P/P	38 - 117
1844877	Cyanazine	81.1	90.8	P/P	18 - 222
1844877	Demeton	59.3	55.9	P/P	10 - 157
1844877	Diazinon	80.2	79.3	P/P	73 - 127
1844877	Disulfoton	64.9	83.1	P/P	43 - 141
1844877	EPTC	20.7	33.5	P/P	11 - 86.0
1844877	Ethion	91.9	93.6	P/P	68 - 130
1844877	Ethoprop	74.4	78.8	P/P	60 - 108
1844877	Fenamiphos	109	101	P/P	56 - 139
1844877	Fipronil	57.1	75.3	P/P	29 - 143
1844877	Fipronil Sulfide	69.2	78.1	P/P	35 - 129
1844877	Fipronil Sulfone	58.5	74.5	P/P	16 - 146
1844877	Fonofos	79.4	79.0	P/P	59 - 112
1844877	Hexazinone	100	101	P/P	68 - 145
1844877	Malathion	98.7	91.5	P/P	69 - 131
1844877	Metalaxyl	84.2	77.1	P/P	67 - 119
1844877	Metolachlor	82.2	79.8	P/P	77 - 124
1844877	Metribuzin	88.9	95.1	P/P	63 - 134
1844877	Mevinphos	82.9	80.9	P/P	40 - 127
1844877	Molinate	37.9	50.8	P/P	27 - 98.0
1844877	Norflurazon	68.7	81.5	P/P	39 - 141
1844877	Parathion Ethyl	85.3	84.2	P/P	74 - 113
1844877	Parathion Methyl	89.7	77.1	P/P	61 - 133
1844877	Pendimethalin	74.1	72.6	P/P	26 - 179
1844877	Phorate	72.0	70.7	P/P	44 - 126
1844877	Prometon	89.4	96.2	P/P	43 - 147
1844877	Prometryn	81.6	80.3	P/P	68 - 126
1844877	Simazine	95.5	102	P/P	47 - 156
1844877	Terbufos	84.1	80.7	P/P	53 - 125
1844877	Terbutylazine	84.2	87.7	P/P	76 - 113

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P313933

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1843431	Glyphosate	74.4	68.2	P/P	40 - 140

Reference Method: EPA 8321B
Batch ID: P314361

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1844875	Pyraclostrobin	116	94.8	P/P	40 - 140

Reference Method: USGS O-2060-01
Batch ID: P313937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1844874	2,4,5-T	77.6	64.4	P/P	40 - 140
1844874	2,4-D	101	101	P/P	40 - 140
1844874	Acetaminophen	56.4	52.8	P/P	40 - 140
1844874	Acifluorfen	56.0	51.6	P/P	40 - 140
1844874	Bentazon	116	110	P/P	40 - 140
1844874	Carbamazepine	64.0	66.0	P/P	40 - 140
1844874	Diuron	33.8	34.8	F/F	40 - 140
1844874	Fenuron	39.3	44.4	F/P	40 - 140
1844874	Fluridone	67.6	48.8	P/P	40 - 140
1844874	Imidacloprid	96.8	92.4	P/P	40 - 160
1844874	Linuron	52.8	54.4	P/P	40 - 140
1844874	Primidone	69.6	60.0	P/P	40 - 140
1844874	Silvex	109	78.0	P/P	40 - 140

Quality Assurance Report Precision

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)
Batch ID: P314251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1844904	Aldrin	18.1	Spike	P	0 - 30
1844904	Alpha-BHC	17.7	Spike	P	0 - 30
1844904	Beta-BHC	1.37	Spike	P	0 - 30
1844904	DDD-p,p'	12.0	Spike	P	0 - 30
1844904	DDE-p,p'	5.72	Spike	P	0 - 30
1844904	DDT-p,p'	4.06	Spike	P	0 - 30
1844904	Dieldrin	5.98	Spike	P	0 - 30
1844904	Endosulfan I	8.27	Spike	P	0 - 30
1844904	Endosulfan II	11.7	Spike	P	0 - 30
1844904	Endosulfan Sulfate	17.3	Spike	P	0 - 30
1844904	Endrin	8.47	Spike	P	0 - 30
1844904	Endrin Aldehyde	5.38	Spike	P	0 - 30
1844904	Heptachlor	14.7	Spike	P	0 - 30
1844904	Heptachlor Epoxide	7.94	Spike	P	0 - 30
1844904	Methoxychlor	18.5	Spike	P	0 - 30
LFB	Aldrin	10.0	LCS	P	0 - 30
LFB	Alpha-BHC	20.6	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)

Batch ID: P314251

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
LFB	Beta-BHC	8.63	LCS	P	0 - 30
LFB	DDD-p,p'	3.28	LCS	P	0 - 30
LFB	DDE-p,p'	6.60	LCS	P	0 - 30
LFB	DDT-p,p'	3.29	LCS	P	0 - 30
LFB	Dieldrin	9.09	LCS	P	0 - 30
LFB	Endosulfan I	9.54	LCS	P	0 - 30
LFB	Endosulfan II	10.4	LCS	P	0 - 30
LFB	Endosulfan Sulfate	4.28	LCS	P	0 - 30
LFB	Endrin	8.09	LCS	P	0 - 30
LFB	Endrin Aldehyde	5.25	LCS	P	0 - 30
LFB	Heptachlor	20.3	LCS	P	0 - 30
LFB	Heptachlor Epoxide	10.3	LCS	P	0 - 30
LFB	Methoxychlor	3.31	LCS	P	0 - 30

Reference Method: EPA 8270D

Batch ID: P314193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1844877	Acetochlor	0.624	Spike	P	0 - 30
1844877	Alachlor	4.40	Spike	P	0 - 30
1844877	Ametryn	1.52	Spike	P	0 - 30
1844877	Atrazine	9.65	Spike	P	0 - 30
1844877	Atrazine Desethyl	0.0176	Spike	P	0 - 30
1844877	Azinphos Methyl	5.32	Spike	P	0 - 30
1844877	Bromacil	16.5	Spike	P	0 - 30
1844877	Butylate	21.3	Spike	P	0 - 30
1844877	Chlorpyrifos Ethyl	6.46	Spike	P	0 - 30
1844877	Chlorpyrifos Methyl	11.4	Spike	P	0 - 30
1844877	Cyanazine	11.2	Spike	P	0 - 30
1844877	Demeton	5.85	Spike	P	0 - 30
1844877	Diazinon	1.20	Spike	P	0 - 30
1844877	Disulfoton	24.7	Spike	P	0 - 30
1844877	EPTC	47.3	Spike	F	0 - 30
1844877	Ethion	1.81	Spike	P	0 - 30
1844877	Ethoprop	5.69	Spike	P	0 - 30
1844877	Fenamiphos	7.25	Spike	P	0 - 30
1844877	Fipronil	22.7	Spike	P	0 - 30
1844877	Fipronil Sulfide	12.0	Spike	P	0 - 30
1844877	Fipronil Sulfone	24.0	Spike	P	0 - 30
1844877	Fonofos	0.475	Spike	P	0 - 30
1844877	Hexazinone	0.903	Spike	P	0 - 30
1844877	Malathion	7.61	Spike	P	0 - 30
1844877	Metalaxyl	8.79	Spike	P	0 - 30
1844877	Metolachlor	2.93	Spike	P	0 - 30
1844877	Metribuzin	6.79	Spike	P	0 - 30
1844877	Mevinphos	2.48	Spike	P	0 - 30
1844877	Molinate	29.1	Spike	P	0 - 30
1844877	Norflurazon	17.0	Spike	P	0 - 30
1844877	Parathion Ethyl	1.31	Spike	P	0 - 30
1844877	Parathion Methyl	15.0	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8270D
Batch ID: P314193

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1844877	Pendimethalin	1.99	Spike	P	0 - 30
1844877	Phorate	1.82	Spike	P	0 - 30
1844877	Prometon	7.40	Spike	P	0 - 30
1844877	Prometryn	1.68	Spike	P	0 - 30
1844877	Simazine	6.72	Spike	P	0 - 30
1844877	Terbufos	4.23	Spike	P	0 - 30
1844877	Terbuthylazine	4.04	Spike	P	0 - 30
LFB	Acetochlor	11.5	LCS	P	0 - 30
LFB	Alachlor	5.82	LCS	P	0 - 30
LFB	Ametryn	0.294	LCS	P	0 - 30
LFB	Atrazine	6.90	LCS	P	0 - 30
LFB	Atrazine Desethyl	6.54	LCS	P	0 - 30
LFB	Azinphos Methyl	10.5	LCS	P	0 - 30
LFB	Bromacil	1.02	LCS	P	0 - 30
LFB	Butylate	26.1	LCS	P	0 - 30
LFB	Chlorpyrifos Ethyl	6.22	LCS	P	0 - 30
LFB	Chlorpyrifos Methyl	9.77	LCS	P	0 - 30
LFB	Cyanazine	3.45	LCS	P	0 - 30
LFB	Demeton	2.22	LCS	P	0 - 30
LFB	Diazinon	13.1	LCS	P	0 - 30
LFB	Disulfoton	5.05	LCS	P	0 - 30
LFB	EPTC	25.1	LCS	P	0 - 30
LFB	Ethion	7.48	LCS	P	0 - 30
LFB	Ethoprop	12.9	LCS	P	0 - 30
LFB	Fenamiphos	8.75	LCS	P	0 - 30
LFB	Fipronil	7.77	LCS	P	0 - 30
LFB	Fipronil Sulfide	0.705	LCS	P	0 - 30
LFB	Fipronil Sulfone	6.28	LCS	P	0 - 30
LFB	Fonofos	9.13	LCS	P	0 - 30
LFB	Hexazinone	6.17	LCS	P	0 - 30
LFB	Malathion	8.38	LCS	P	0 - 30
LFB	Metalaxyl	6.48	LCS	P	0 - 30
LFB	Metolachlor	5.03	LCS	P	0 - 30
LFB	Metribuzin	4.54	LCS	P	0 - 30
LFB	Mevinphos	17.3	LCS	P	0 - 30
LFB	Molinate	18.3	LCS	P	0 - 30
LFB	Norflurazon	6.23	LCS	P	0 - 30
LFB	Parathion Ethyl	4.21	LCS	P	0 - 30
LFB	Parathion Methyl	2.06	LCS	P	0 - 30
LFB	Pendimethalin	7.89	LCS	P	0 - 30
LFB	Phorate	9.05	LCS	P	0 - 30
LFB	Prometon	4.24	LCS	P	0 - 30
LFB	Prometryn	8.59	LCS	P	0 - 30
LFB	Simazine	4.04	LCS	P	0 - 30
LFB	Terbufos	10.2	LCS	P	0 - 30
LFB	Terbuthylazine	4.33	LCS	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P313933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1843431	Glyphosate	8.70	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P314361

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1844875	Pyraclostrobin	20.5	Spike	P	0 - 30

Reference Method: USGS O-2060-01
Batch ID: P313937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1844874	2,4,5-T	18.6	Spike	P	0 - 30
1844874	2,4-D	0.396	Spike	P	0 - 30
1844874	Acetaminophen	6.59	Spike	P	0 - 30
1844874	Acifluorfen	8.18	Spike	P	0 - 30
1844874	Bentazon	5.31	Spike	P	0 - 30
1844874	Carbamazepine	3.08	Spike	P	0 - 30
1844874	Diuron	2.92	Spike	P	0 - 30
1844874	Fenuron	12.2	Spike	P	0 - 30
1844874	Fluridone	32.3	Spike	F	0 - 30
1844874	Imidacloprid	4.65	Spike	P	0 - 30
1844874	Linuron	2.99	Spike	P	0 - 30
1844874	Primidone	14.8	Spike	P	0 - 30
1844874	Silvex	33.0	Spike	F	0 - 30

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Surrogates

Lab Sample ID: 1844874
Field Sample ID: G1NE0332 10252016

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Glyphosate 13C 15N	89.0	P	50 - 150
USGS O-2060-01	2,4-D-d3	56.4	P	40 - 150
USGS O-2060-01	Acetaminophen-d4	59.6	P	30 - 150
USGS O-2060-01	Carbamazepine-d10	75.2	P	40 - 160
USGS O-2060-01	Diuron-d6	32.4	F	40 - 150
USGS O-2060-01	Primidone-d5	66.0	P	40 - 150

Lab Sample ID: 1844875
Field Sample ID: G1NE0332 10252016

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	Diuron-d6	75.8	P	40 - 150

Quality Assurance Report Surrogates

Lab Sample ID: 1844876
Field Sample ID: G1NE0332 10252016

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
DEP SOP: GC-011-5 (based on EPA 608 and 617)	Decachlorobiphenyl	59.2	P	41 - 134

Lab Sample ID: 1844877
Field Sample ID: G1NE0332 10252016

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8270D	Malathion-d7	95.8	P	65 - 132
EPA 8270D	Simazine-d10	86.7	P	72 - 128

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A72471
Included Lab Sample IDs: 1844874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Glyphosate	98.8	119	P/P	70 - 160

Reference Method: USGS O-2060-01
Run ID: A72521
Included Lab Sample IDs: 1844874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4,5-T	70.0	70.6	P/P	50 - 150
2,4-D	96.6	92.8	P/P	50 - 150
Acifluorfen	111	63.2	P/P	50 - 150
Bentazon	83.2	83.4	P/P	50 - 150
Silvex	98.4	95.6	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A72675
Included Lab Sample IDs: 1844875

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Pyraclostrobin	98.0	94.8	P/P	60 - 150

Reference Method: USGS O-2060-01
Run ID: A72675
Included Lab Sample IDs: 1844874

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetaminophen	81.6	80.8	P/P	60 - 150
Carbamazepine	131	138	P/P	60 - 150
Diuron	108	126	P/P	60 - 150
Fenuron	100	106	P/P	60 - 150
Fluridone	120	126	P/P	60 - 150
Imidacloprid	90.0	91.2	P/P	60 - 150
Linuron	99.6	100	P/P	60 - 150
Primidone	81.2	74.4	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: GC-011-5 (based on EPA 608 and 617)

Run ID: A72720

Included Lab Sample IDs: 1844876

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aldrin	104	98.1	P/P	85 - 115
Alpha-BHC	105	101	P/P	85 - 115
Beta-BHC	105	100	P/P	85 - 115
Carbophenothion	94.5	105	P/P	90 - 110
Chlorothalonil	97.6	99.7	P/P	90 - 110
Cypermethrin	101	117*	P/F	85 - 115
DDD-p,p'	105	104	P/P	85 - 115
DDE-p,p'	100	95.9	P/P	85 - 115
DDT-p,p'	115	112	P/P	85 - 115
Dicofol	49.3*	61.0*	F/F	90 - 110
Dieldrin	102	97.0	P/P	85 - 115
Endosulfan I	103	97.2	P/P	85 - 115
Endosulfan II	103	98.1	P/P	85 - 115
Endosulfan Sulfate	104	104	P/P	85 - 115
Endrin	106	104	P/P	85 - 115
Endrin Aldehyde	108	106	P/P	85 - 115
Heptachlor	113	114	P/P	85 - 115
Heptachlor Epoxide	103	97.0	P/P	85 - 115
Methoxychlor	126*	130*	F/F	90 - 110
Mirex	105	108	P/P	90 - 110
Permethrin	94.7	102	P/P	90 - 110
Trifluralin	102	107	P/P	90 - 110

Reference Method: EPA 8270D

Run ID: A72807

Included Lab Sample IDs: 1844877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acetochlor	94.0		P	80 - 120
Alachlor	94.0		P	80 - 120
Ametryn	98.0		P	80 - 120
Atrazine	93.9		P	80 - 120
Atrazine Desethyl	92.4		P	80 - 120
Azinphos Methyl	93.4		P	80 - 120
Bromacil	95.0		P	80 - 120
Butylate	89.3		P	80 - 120
Chlorpyrifos Ethyl	92.1		P	80 - 120
Chlorpyrifos Methyl	91.0		P	80 - 120
Cyanazine	95.7		P	80 - 120
Demeton	97.7		P	80 - 120
Diazinon	95.6		P	80 - 120
Disulfoton	102		P	80 - 120
EPTC	94.0		P	80 - 120
Ethion	95.9		P	80 - 120
Ethoprop	99.0		P	80 - 120
Fenamiphos	95.1		P	80 - 120
Fipronil	89.7		P	80 - 120
Fipronil Sulfide	96.5		P	80 - 120
Fipronil Sulfone	93.9		P	80 - 120
Fonofos	97.5		P	80 - 120
Hexazinone	98.4		P	80 - 120

Quality Assurance Report Calibration Verification

Reference Method: EPA 8270D
 Run ID: A72807
 Included Lab Sample IDs: 1844877

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Malathion	95.6		P	80 - 120
Metalaxyl	98.0		P	80 - 120
Metolachlor	95.2		P	80 - 120
Metribuzin	93.9		P	80 - 120
Mevinphos	90.7		P	80 - 120
Molinate	95.0		P	80 - 120
Norflurazon	95.2		P	80 - 120
Parathion Ethyl	98.7		P	80 - 120
Parathion Methyl	86.3		P	80 - 120
Pendimethalin	95.3		P	80 - 120
Phorate	104		P	80 - 120
Prometon	88.3		P	80 - 120
Prometryn	90.3		P	80 - 120
Simazine	92.6		P	80 - 120
Terbufos	100		P	80 - 120
Terbutylazine	96.1		P	80 - 120

* Pass/Fail determinations are made for each bracketing calibration verification check.
 Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
 Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		LCS	Precision	MS
							SMP	
DEP SOP: GC-011-5 (based on EPA 608 and 617)	Aldrin	64.1	70.9	84.6	70.3	10.0		18.1
	Alpha-BHC	73.7	90.7	100	83.7	20.6		17.7
	Beta-BHC	84.9	92.5	94.0	92.5	8.63		1.37
	DDD-p,p'	104	108	118	104	3.28		12.0
	DDE-p,p'	76.8	82.0	87.0	82.0	6.60		5.72
	DDT-p,p'	109	112	112	108	3.29		4.06
	Dieldrin	77.5	84.9	86.0	79.1	9.09		5.98
	Endosulfan I	76.1	83.7	88.3	81.0	9.54		8.27
	Endosulfan II	94.6	105	106	94.0	10.4		11.7
	Endosulfan Sulfate	100	105	116	97.3	4.28		17.3
	Endrin	88.8	96.3	103	94.4	8.09		8.47
	Endrin Aldehyde	99.3	105	105	99.5	5.25		5.38
	Heptachlor	88.4	108	113	97.2	20.3		14.7
	Heptachlor Epoxide	74.0	82.0	82.6	74.9	10.3		7.94
	Methoxychlor	136	141	101	121	3.31		18.5
EPA 8270D	Acetochlor	87.7	78.2	80.2	79.7	11.5		0.624
	Alachlor	85.9	81.0	91.9	88.0	5.82		4.40
	Ametryn	109	109	96.0	97.5	0.294		1.52
	Atrazine	95.8	89.5	88.8	97.8	6.90		9.65
	Atrazine Desethyl	65.4	61.3	46.3	46.2	6.54		0.0176
	Azinphos Methyl	122	110	118	124	10.5		5.32
	Bromacil	84.0	83.2	71.9	84.8	1.02		16.5
	Butylate	54.2	41.7	24.5	30.3	26.1		21.3

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery		MS % Recovery		Precision	
						LCS	MS
						SMP	
EPA 8270D	Chlorpyrifos Ethyl	87.0	81.8	77.3	72.5	6.22	6.46
	Chlorpyrifos Methyl	82.3	74.7	75.4	67.3	9.77	11.4
	Cyanazine	96.3	99.6	81.1	90.8	3.45	11.2
	Demeton	73.9	72.3	59.3	55.9	2.22	5.85
	Diazinon	89.3	78.3	80.2	79.3	13.1	1.20
	Disulfoton	93.7	89.1	64.9	83.1	5.05	24.7
	EPTC	54.5	42.4	20.7	33.5	25.1	47.3
	Ethion	93.2	86.5	91.9	93.6	7.48	1.81
	Ethoprop	84.1	73.9	74.4	78.8	12.9	5.69
	Fenamiphos	103	94.8	109	101	8.75	7.25
	Fipronil	89.3	82.6	57.1	75.3	7.77	22.7
	Fipronil Sulfide	87.6	87.0	69.2	78.1	0.705	12.0
	Fipronil Sulfone	91.6	86.0	58.5	74.5	6.28	24.0
	Fonofos	88.8	81.1	79.4	79.0	9.13	0.475
	Hexazinone	112	105	100	101	6.17	0.903
	Malathion	106	97.6	98.7	91.5	8.38	7.61
	Metalaxyl	82.5	77.4	84.2	77.1	6.48	8.79
	Metolachlor	87.4	83.1	82.2	79.8	5.03	2.93
	Metribuzin	95.5	91.3	88.9	95.1	4.54	6.79
	Mevinphos	82.9	69.7	82.9	80.9	17.3	2.48
	Molinate	59.4	49.4	37.9	50.8	18.3	29.1
	Norflurazon	89.8	84.4	68.7	81.5	6.23	17.0
	Parathion Ethyl	90.1	86.4	85.3	84.2	4.21	1.31
	Parathion Methyl	89.5	87.7	89.7	77.1	2.06	15.0
	Pendimethalin	84.1	77.7	74.1	72.6	7.89	1.99
	Phorate	82.4	75.3	72.0	70.7	9.05	1.82
	Prometon	96.8	101	89.4	96.2	4.24	7.40
	Prometryn	93.1	85.5	81.6	80.3	8.59	1.68
	Simazine	89.9	86.3	95.5	102	4.04	6.72
	Terbufos	91.6	82.7	84.1	80.7	10.2	4.23
	Terbuthylazine	91.8	87.9	84.2	87.7	4.33	4.04
EPA 8321B	Glyphosate	94.8		74.4	68.2		8.70
	Pyraclostrobin	67.6		116	94.8		20.5
USGS O-2060-01	2,4,5-T	67.2		77.6	64.4		18.6
	2,4-D	77.2		101	101		0.396
	Acetaminophen	105		56.4	52.8		6.59
	Acifluorfen	83.2		56.0	51.6		8.18
	Bentazon	74.4		116	110		5.31
	Carbamazepine	121		64.0	66.0		3.08
	Diuron	53.6		33.8	34.8		2.92
	Fenuron	89.2		39.3	44.4		12.2
	Fluridone	118		67.6	48.8		32.3
	Imidacloprid	85.6		96.8	92.4		4.65
	Linuron	78.8		52.8	54.4		2.99
	Primidone	77.2		69.6	60.0		14.8
	Silvex	94.0		109	78.0		33.0

Reference Method Descriptions

Method / DoH Cert #
DEP SOP: GC-011-5
(based on EPA 608 and
617) / E31780

Description
Organochlorine pesticides (low levels) in water matrices by GC/ECD.

Associated Samples
1844876

Reference Method Descriptions

Method / DoH Cert #	Description	<u>Associated Samples</u>
EPA 8270D / E31780	Organonitrogen and phosphorus pesticides (ultra trace level) in water matrices by GC/MS/MS	1844877
EPA 8321B / E31780	Glyphosate in water matrices by HPLC/MS/MS	1844874
EPA 8321B / E31780	Pyraclostrobin in water matrices by HPLC/MS/MS	1844875
USGS O-2060-01 / E31780	Chlorinated (phenoxy acid) herbicides in water matrices by HPLC/MS/MS	1844874
USGS O-2060-01 / E31780	Urea herbicides and other chemicals in water matrices by HPLC/MS/MS	1844874

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: GC-011-5 (based on EPA 608 and 617)	10/26/2016	10/28/2016	Rasheda Ghaffari	11/08/2016	Vandana T. Nagar	1844876
EPA 8270D	10/26/2016	10/31/2016	John Kaba	11/09/2016	Irina Carbone	1844877
EPA 8321B	10/26/2016	10/27/2016	Mohammad Ghaffari	10/27/2016	Mohammad Ghaffari	1844874
	10/26/2016	11/01/2016	Hoor Shaik	11/06/2016	Juyoung Kim	1844875
USGS O-2060-01	10/26/2016	10/28/2016	Hoor Shaik	10/29/2016	Juyoung Kim	1844874
	10/26/2016	10/28/2016	Hoor Shaik	11/08/2016	Juyoung Kim	1844874